Wisconsin
Department of Commerce

Approval # 20000012
(Replaces 980006-U)

Environmental & Regulatory Services Division
Bureau of Storage Tank Regulation
201 West Washington Avenue
P.O. Box 7837
Madison, WI 53707-7837

Wisconsin COMM 10 Material Approval

Equipment: USTMAN SIR 95.2, 95.2A, & 95.2B

Manufacturer: USTMAN Technologies, Inc.
12265 West Bayaud Avenue, Suite 300
Lakewood, CO 80228

Expiration of Approval: December 31, 2003

SCOPE OF EVALUATION

The USTMAN Statistical Inventory Reconciliation (SIR) System, Versions 95.2 and 95.2A, & 95.2B, manufactured by USTMAN Technologies have been evaluated for use as a method of monthly monitoring for tanks and connected piping complying with **ss. COMM 10.61 (8) and 10.615 (3)** of the current edition of the Wisconsin Flammable and Combustible Liquids Code.

DESCRIPTION AND USE

The USTMAN SIR system functions as a quantitative method that analyzes inventory records for evidence of leaks. Based on an analysis of inventory records and application of a threshold, the method declares a tank to be tight, a leak indicated, the results inconclusive, or the data unusable. If a leak is indicated, an estimated leak rate will be given. The 95.2 version declares a leak using a consistent loss that exceeds 0.05 gallon per hour and is statistically different from zero at the 5 percent significance level. With the 95.2A version, the criterion for declaring a leak is a consistent loss that exceeds 0.1 gallon per hour and is statistically different from zero at the 5 percent significance level. The 95.2B version declares a leak using a consistent loss that

exceeds 0.16 gallon per hour and is statistically different from zero at the 5 percent significance level.

The SIR system identifies leak rates, delivery errors, unexplained gains or losses, water inflow or outflow and metering errors.

Inventory data may be recorded manually or by use of an electronic or other tank monitor. A specified data form is not required, but forms or data format for electronic transmission are provided by USTMAN Technologies.

Data that must be reported include dates of recording, daily gauge readings and/or conversions, quantity dispensed and quantity added.

The facility may be closed for one or more consecutive days during the data collection period, but the inventory record submitted for analysis must contain data from a minimum of 30 days of active use of the facility. Properly calibrated meters are required for use of the SIR system.

The SIR system will not give conclusive results if there is an insufficient number of usable inventory records, irregular time intervals between readings, an unacceptable daily variability in inventory records, or significant chart and delivery errors.

If a leak is indicated, the leak could be located in any portion of the tank system, including piping. Additional testing may be needed to isolate the location of the leak.

TESTS AND RESULTS

The performance of the USTMAN SIR system was determined in accordance with the EPA protocol for evaluation of statistical inventory reconciliation methods and was also tested on larger tanks using a protocol from the National Work Group on Leak Detection Evaluations (NWGLDE). The SIR system was found to be capable of detecting a leak, using the manufacturer's threshold of 0.1 gallon per hour, with a probability of false alarm (P(FA)) of less than 0.1 percent. The probability of detection (P(D)) of a 0.20 gallon per hour leak was found to be greater than the minimum 95 percent required by regulation.

LIMITATIONS / CONDITIONS APPROVAL

The USTMAN SIR system may be used as a method of monthly monitoring for tanks and connected piping complying with **ss. COMM 10.61 (8) and 10.615 (3).**

All procedures for data collection specified by USTMAN Technologies shall be used. The analysis shall use 30 or more days of data.

The USTMAN SIR system shall be used on single tanks or manifolded systems with a maximum of 4 tanks. The maximum aggregate capacity of tanks in a single system shall be 60,000 gallons.

USTMAN Technologies shall provide an updated list of all Wisconsin users of the SIR system to the department every six months. The list is to be sent to the address located on the cover sheet of this material approval. Copies of correspondence concerning UST system status between SIR system users and USTMAN Technologies shall be supplied to the department by both USTMAN Technologies, and the facility operators, upon request. Continued approval shall be contingent upon department verification of operational viability of the SIR method.

If the SIR test results indicate that a tank system is not tight, or the results are inconclusive, the suspected release investigation and confirmation procedures specified under **ss. COMM 10.63 and 10.64** shall be followed. In addition, within 48 hours, the Bureau of Storage Tank Regulation shall also receive written notification of those tank systems that are not considered tight or where the results are inconclusive. The notification may be provided by either USTMAN Technologies directly or forwarded through the facility operator to the address on the cover sheet of this material approval.

If a second test is required to confirm the status of a tank system, that test shall be an approved tightness test in accordance with **ss. COMM 10.635 (2)(a).** The SIR method shall not be used to provide this second test.

This approval will be valid through December 31, 2003, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Reviewed by: _____

Greg Bareta
Mechanical Engineer
Bureau of Storage Tank Regulation

Approved by: _____ Date: _____